

PART 1 - GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

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| ASTM A 569/A 569M | (1998) Steel, Carbon (0.15 Maximum Percent), Hot Rolled Sheet and Strip Commercial |
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NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

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| NFPA 80 | (1995) Fire Doors and Fire Windows |
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| NFPA 101 | (1997) Life Safety Code |
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STEEL WINDOW INSTITUTE (SWI)

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| SWI SWS | (1990) Steel Window Specifications |
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1.2 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures."

1.2.1 SD-02, Shop Drawings

a. Windows

Indicate elevations of windows, thicknesses and gages of metal, proposed method of anchoring, size and spacing of anchors, and , method of glazing,

1.3 DELIVERY AND STORAGE

Deliver to project site in undamaged condition. Store windows and components on edge, out of contact with the ground, under weathertight covering, and arranged to avoid bending, warping, or other damage.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Sheet Steel

ASTM A 569/A 569M.

2.2 FABRICATION OF WINDOWS

Form permanent joints by welding Weld joints solid, remove excess metal, and dress smooth on exposed and contact surfaces. Closely fit joints formed with mechanical fastenings and make permanently watertight. Assemble frames at the plant and ship as a unit with hardware unattached. Provide the following construction:

- a. Design glazed windows and rabbets suitable for glass thickness shown on drawings.
- b. Use flathead, cross recessed type, exposed head screws and bolts with standard threads on windows, trim and accessories. Screw heads shall finish flush with adjoining surfaces. Self tapping sheet-metal screws are not acceptable.

2.3 PROVISIONS FOR GLAZING

Design sash for inside room-side glazing and for securing glass with metal beads. Glass and glazing is specified in Section 08800, "Glazing."

2.4 METAL-TO-METAL JOINTS

Set in mastic, using type recommended by window manufacturer to provide weathertight joints. Remove excess mastic before it hardens.

2.5 ACCESSORIES

Provide windows with clips, fins, anchors, glazing beads, and fastenings, necessary for complete installation.

2.5.1 Anchors

Use hot-dip galvanized steel anchors. Secure anchors and fastenings to heads, jambs, and sills of openings, and fasten securely to windows or frames. Use anchors recommended by window manufacturer for specific type of construction and conceal. Anchor each frame at jambs with minimum of three adjustable steel anchors.

2.6 WINDOW FINISH

2.6.1 Shop Primed Finish

After fabrication, clean all surfaces of windows, and provide a phosphate-treated and shop-primed finish. The methods of cleaning, chemical treatment, and painting shall conform to SWI SWS. Windows shall receive finish paint coats as specified in Section 09900, "Paints and Coatings."

2.6.2 Fixed Windows

Standard Intermediate windows.

PART 3 - EXECUTION

3.1 INSTALLATION

Install in accordance with window manufacturer's printed instructions and details. Build in windows as work progresses or install without forcing into prepared window openings. Set at proper elevation, location, and reveal; plumb, square, level, and in alignment. Brace and stay to prevent distortion and misalignment. Bed screws or bolts in sill members, joints at mullions, contacts of windows with sills, built-in fins, and subframes in mastic sealant recommended by window manufacturer.

3.2 ANCHORS AND FASTENINGS

Make provision for securing units to each other and to adjoining construction. Space anchors not more than 18 inches apart on jambs and sills, and install a minimum of three anchors on each side of each opening. Anchors and fastenings shall have sufficient strength to hold member firmly in position. Where type, size, or spacing of anchors is not shown or specified, use expansion or toggle bolts or screws as best suited to construction material. Provide expansion shield and bolt assemblies of type designed to give holding power beyond tensile and shearing strength of bolt. Minimum fastener penetration shall be not less than that recommended by manufacturer for type fastener and wall material involved.

After installation of windows and completion of glazing and field painting, adjust all ventilators and hardware to operate smoothly and to provide weathertight sealing when ventilators are closed and locked. Lubricate hardware and operating parts. Adjust weatherstripping to assure weathertight contact with frames when ventilators are closed and locked. Weatherstripping shall not cause binding of sash, or prevent closing and locking of ventilator.

3.3 CLEANING

Clean interior and exterior surfaces of window units to present a neat appearance Clean and touch up abraded surfaces. Replace with new windows any stained, discolored, or abraded windows that cannot be restored to original condition.

END OF SECTION